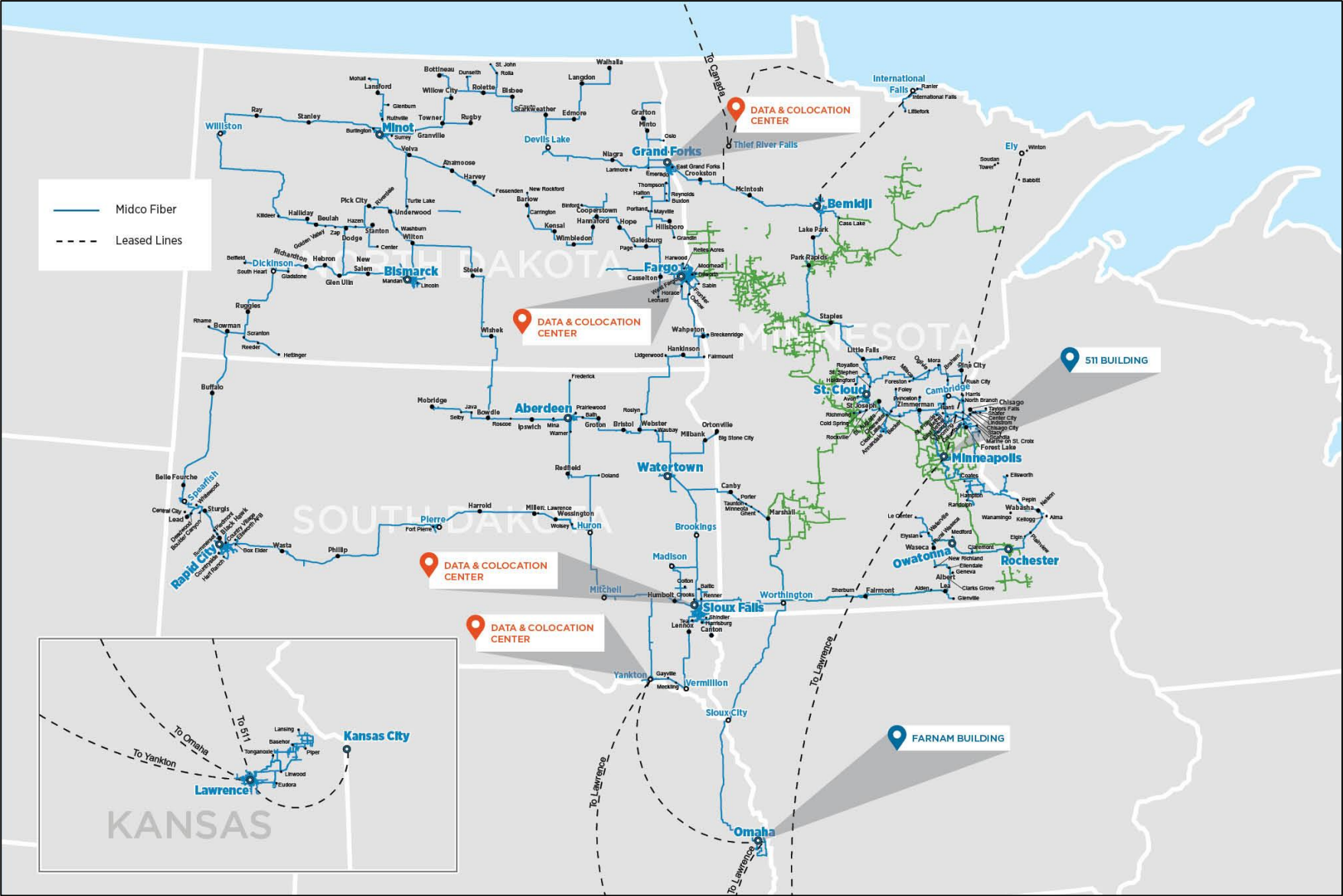

Using the 2.5 GHz Band to Serve Rural America



Midwestern Service



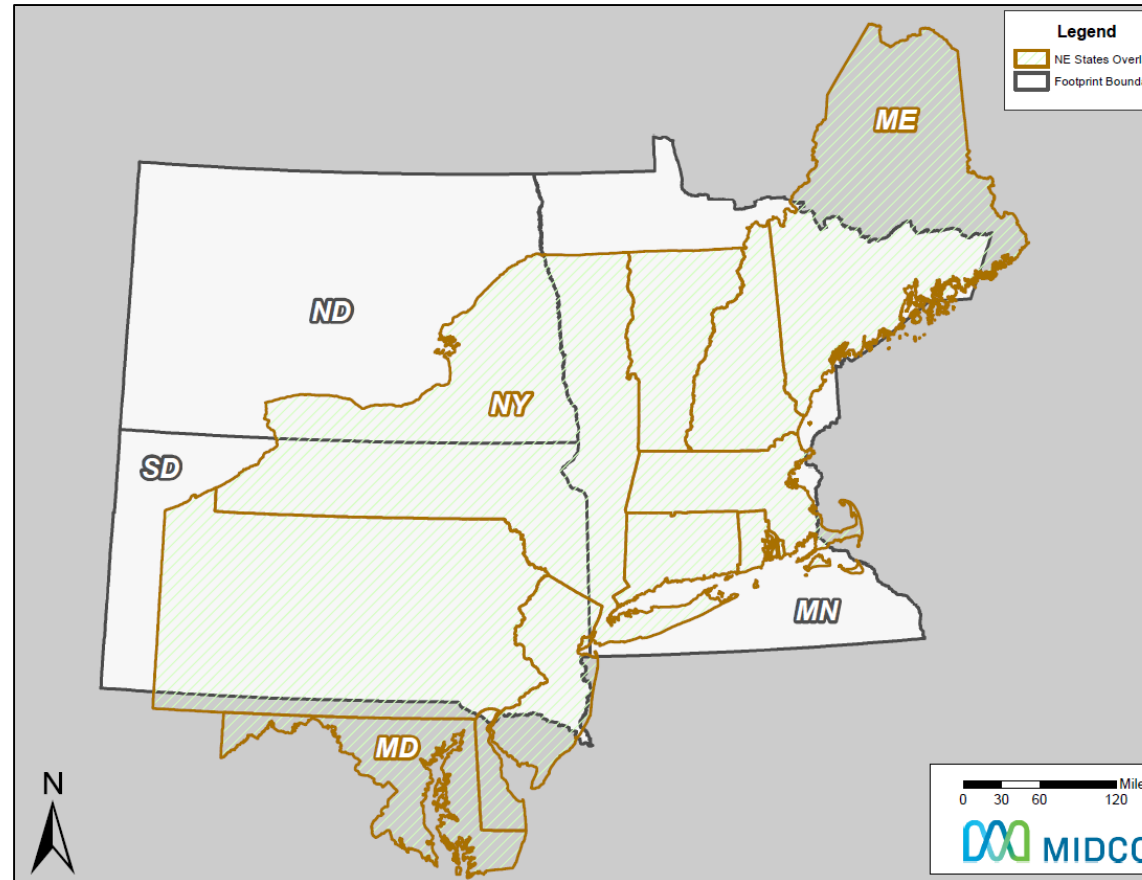
Multiple Services Operator

- 10,000 fiber miles; 4 owned data centers; 2 leased data centers
- 365,000+ wired broadband customers; 80% with Gigabit access
- 4,200+ fixed wireless broadband customers; 140 “towers”
- 70,300+ residential phone customers
- 17,600+ Hosted VoIP customers
- 290,700+ video customers
- 1,500+ Midco SmartHome customers
- Tri-state sports network, MidcoSN

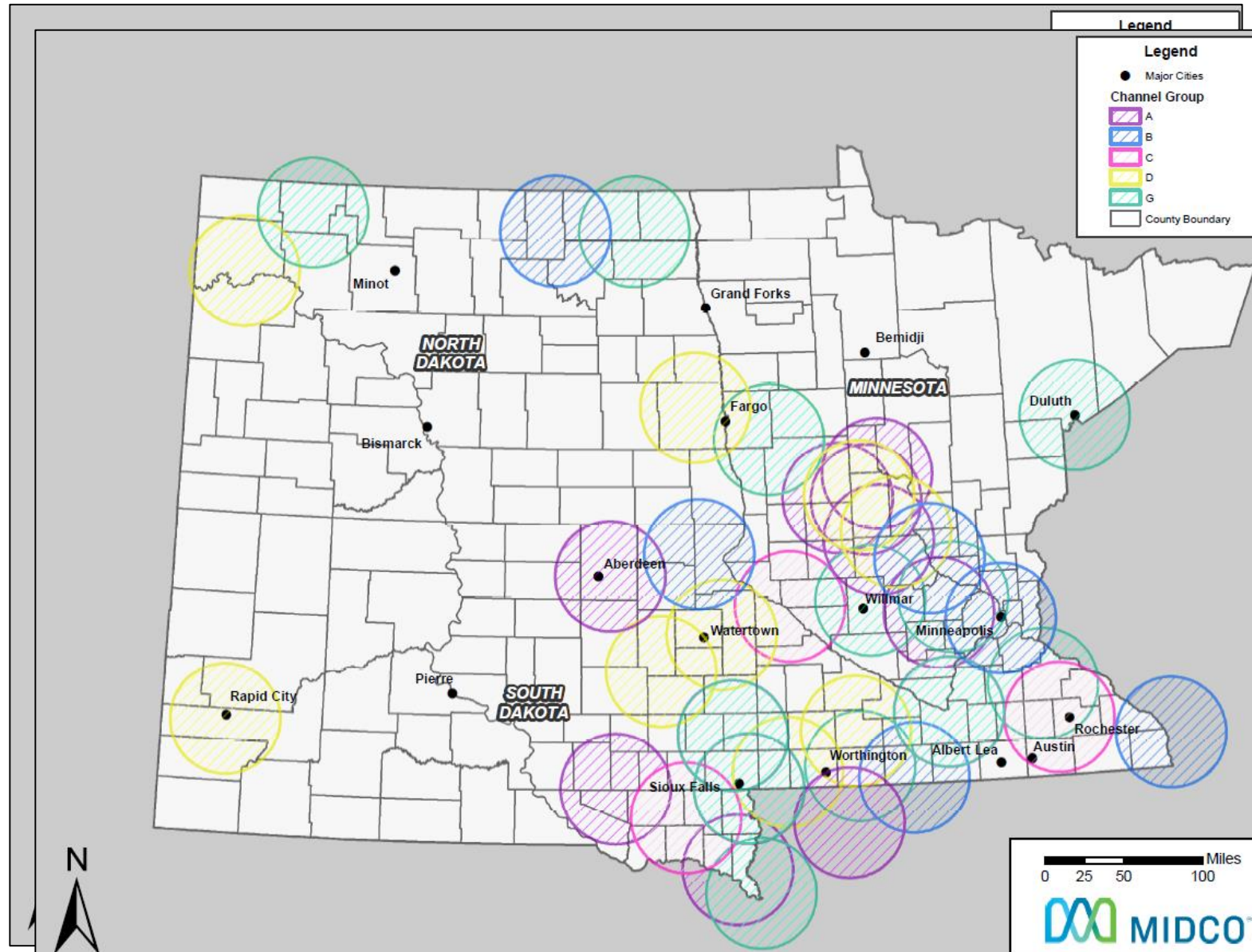


Providing Rural Connectivity

- Northeast population: approx. 61.2 million
- Midco footprint population: approx. 7.2 million



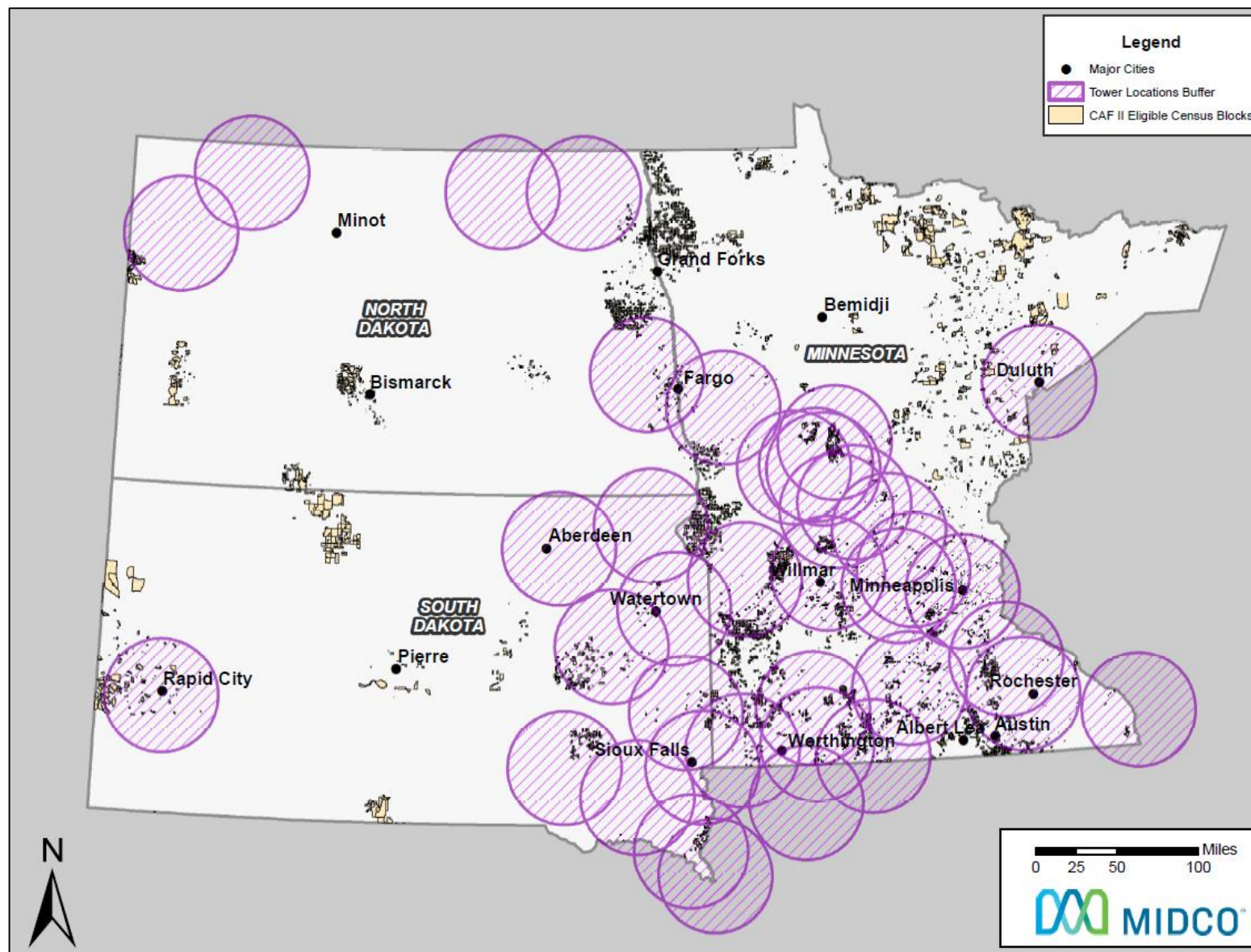
EBS Licenses in Footprint



Commercial EBS Use

- 98% of SD, ND, and MN licenses are essentially commercial
 - 102 licenses
 - 73 have a commercial lease
 - Only 6 of the 29 remaining GSAs have an educational licensee
 - 2 of those 6 are out-of-state, i.e., commercial, licensees
 - Another 2 of the 6 indicate recently expired leases
- 49% of leases associated with Sprint

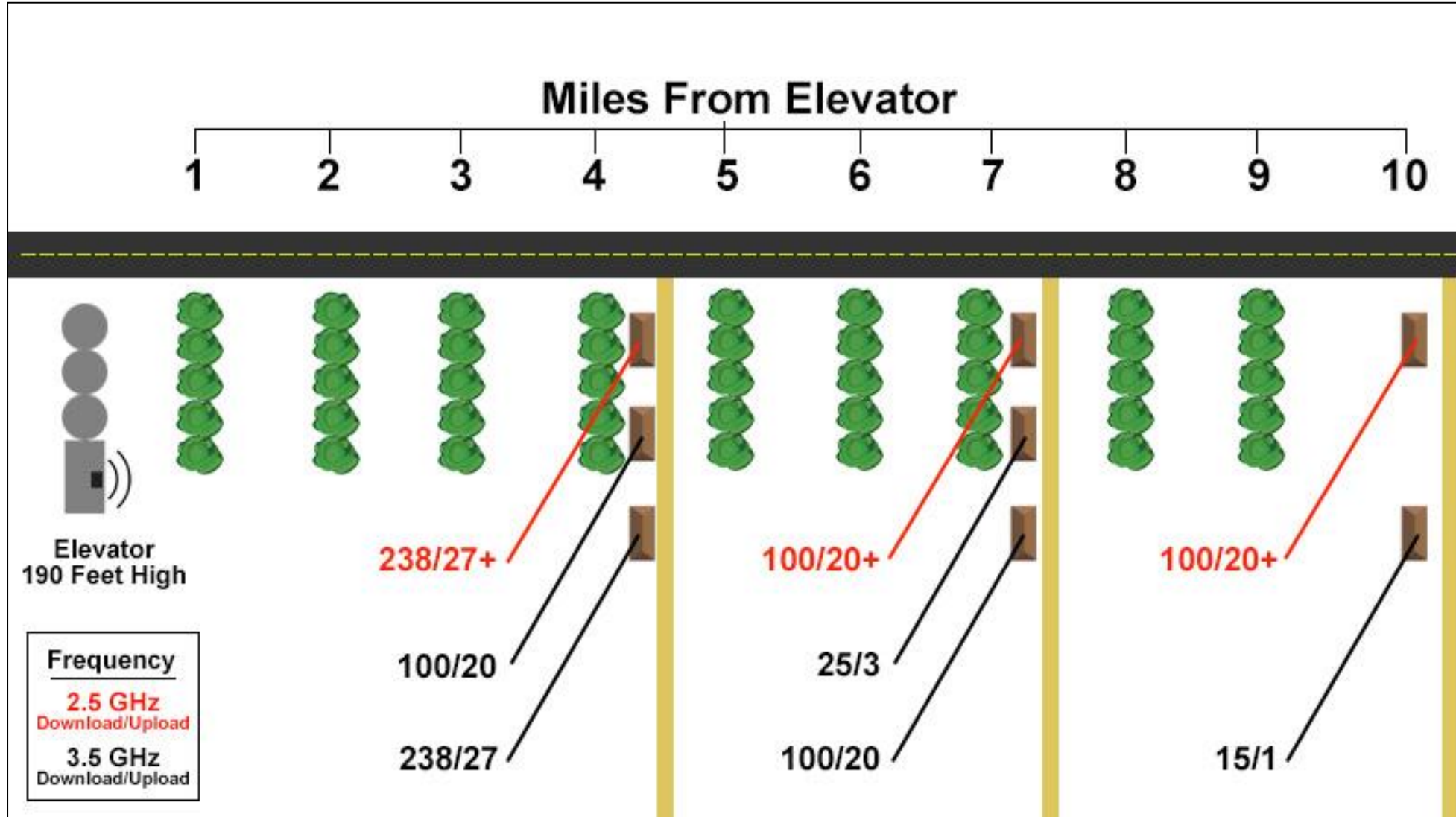
Even with Commercial Use, Still Unserved Areas



2.5 GHz is Valuable in Rural Areas

- About 1 watt of power allowed in 3.5 GHz;
but 10 watts in 2.5 GHz with carrier aggregation technology
- Good propagation characteristics for forests and shelter belts
- More opportunities to cover larger, less densely populated areas

3.5 GHz Band v. 2.5 GHz Band (40 MHz)



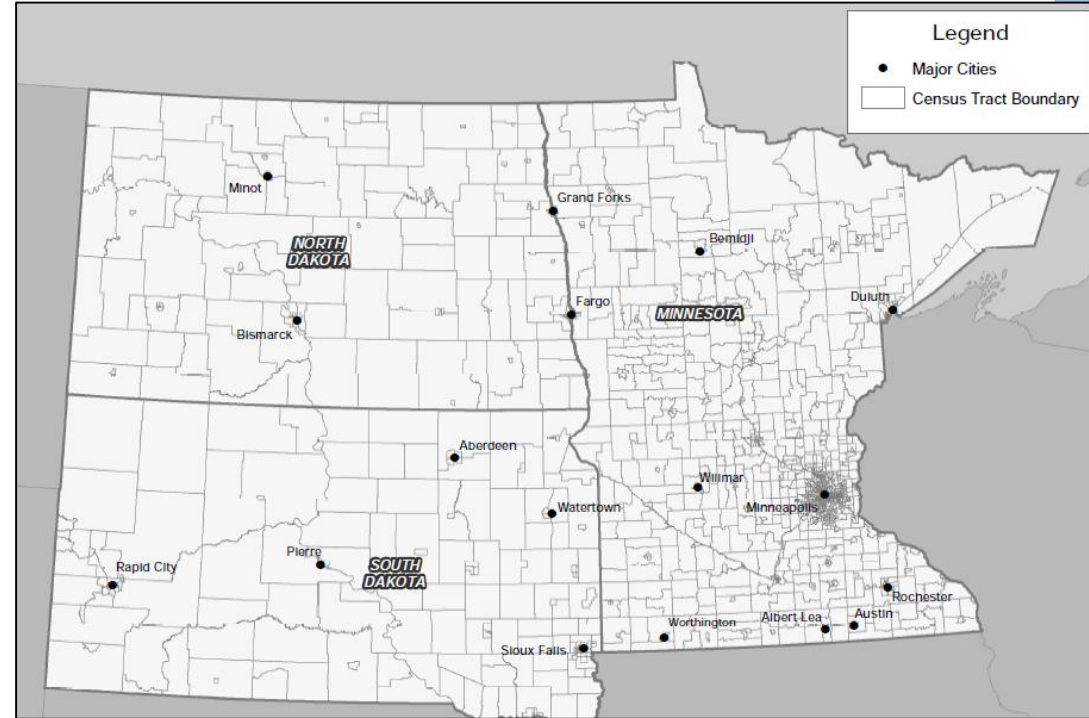
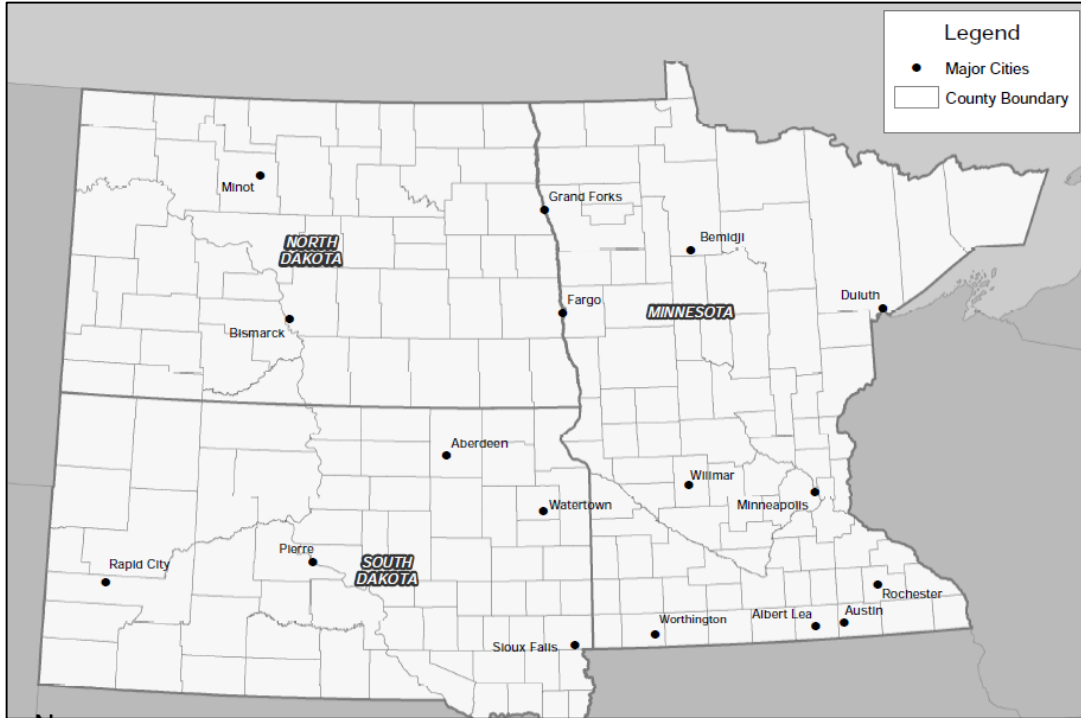
Maximizing the 2.5 GHz Band

- Ideally, 40 MHz of the 2.5 GHz band available to license
 - Consider similar rules for the BRS to increase available spectrum
- At least a 10 MHz channel is best for carrier aggregation
- Contiguous channels easier, but not necessary
- More spectrum equates to more bandwidth for rural Americans, rural businesses, smart agriculture

Connecting Rural Businesses



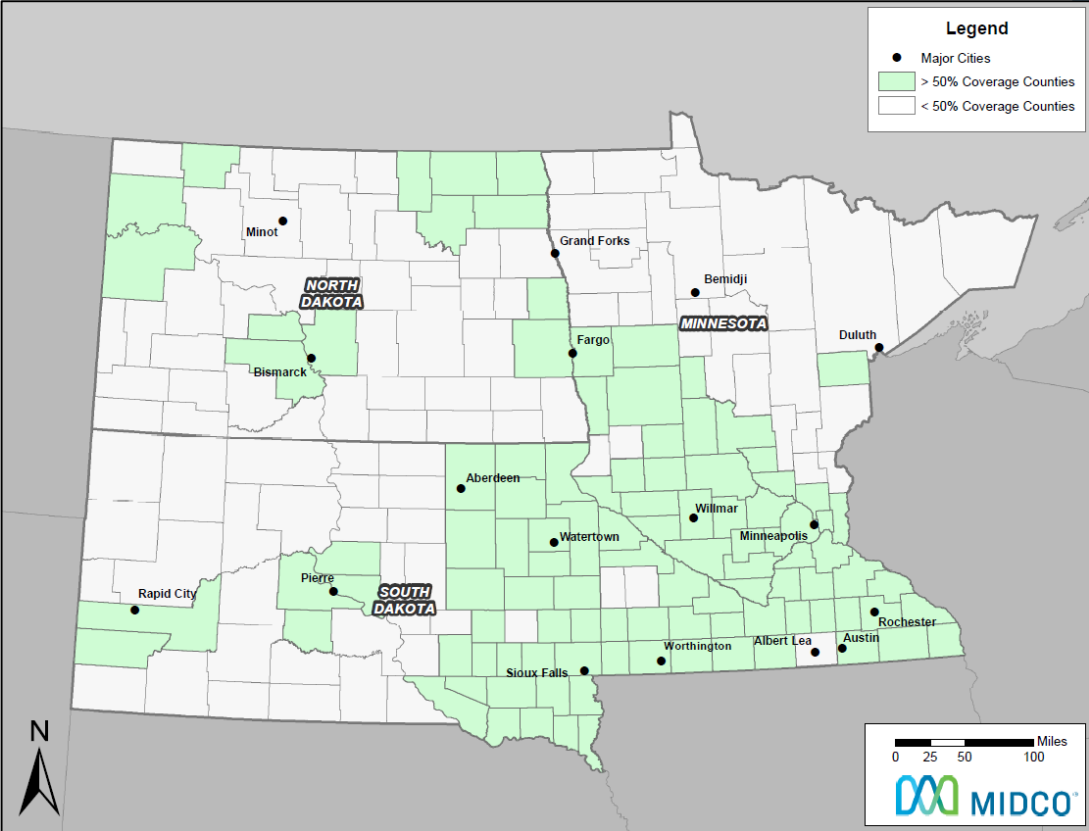
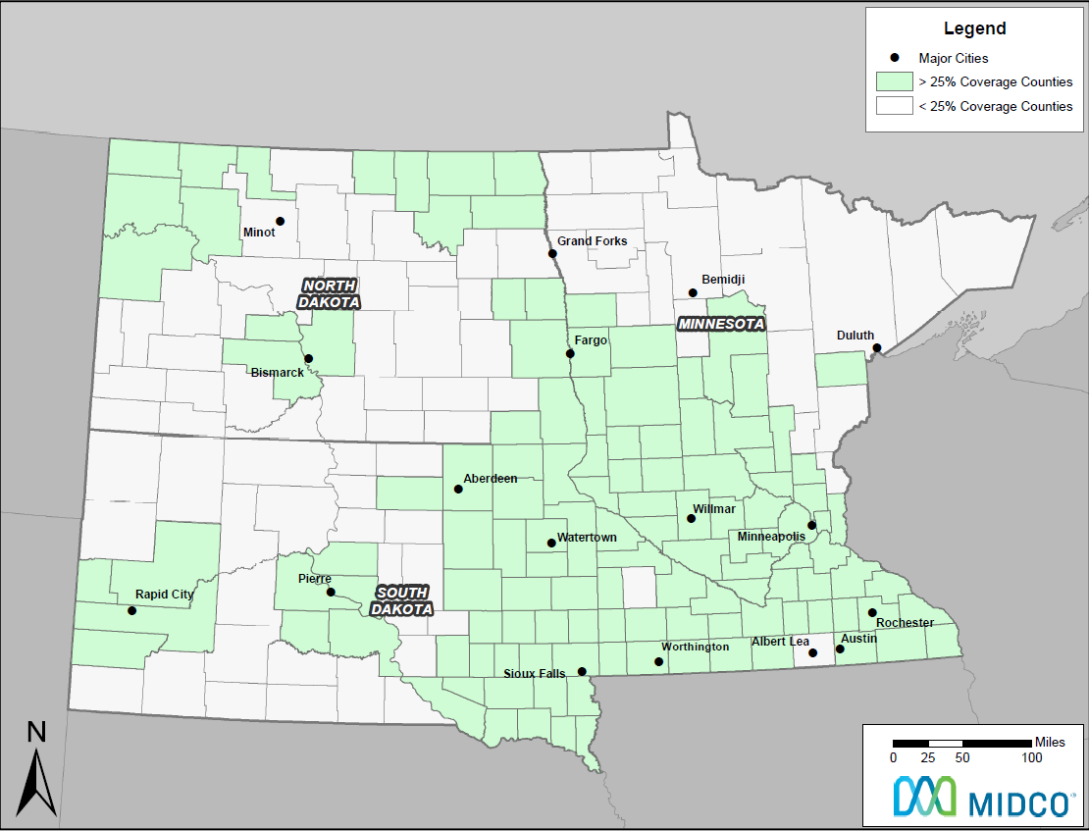
GSAs and New Licenses as County-Sized Licenses



Rationalization of GSAs

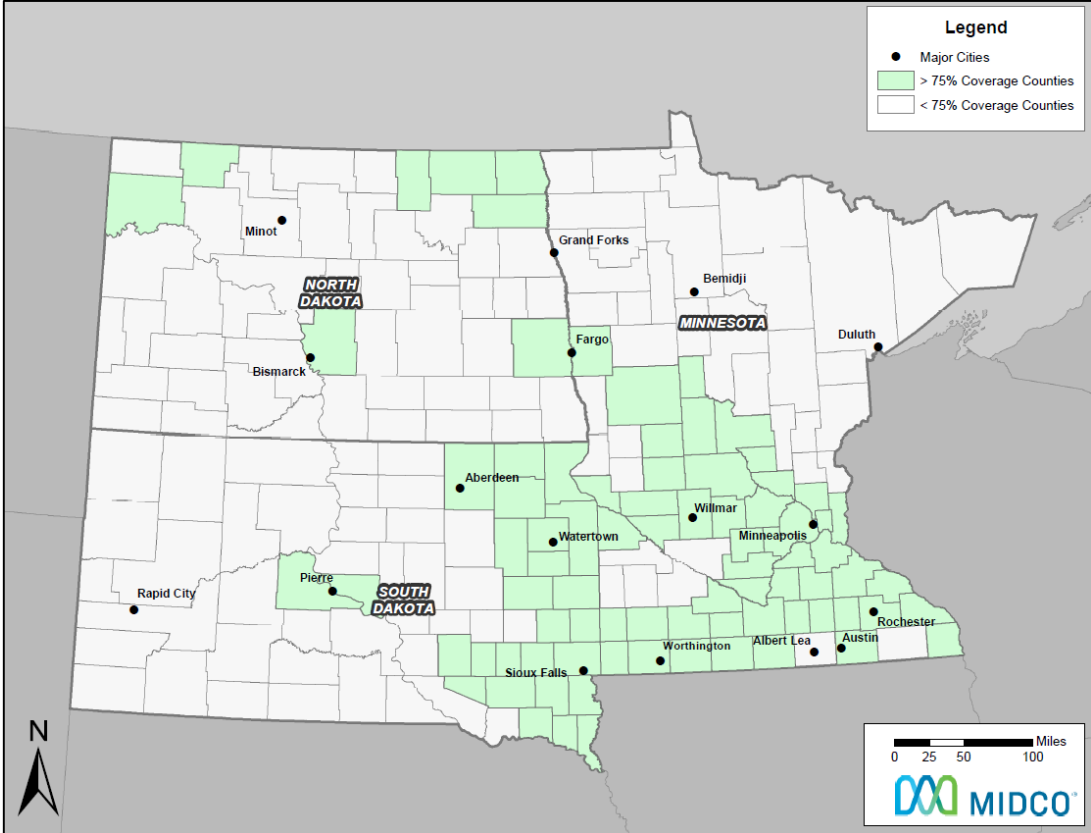
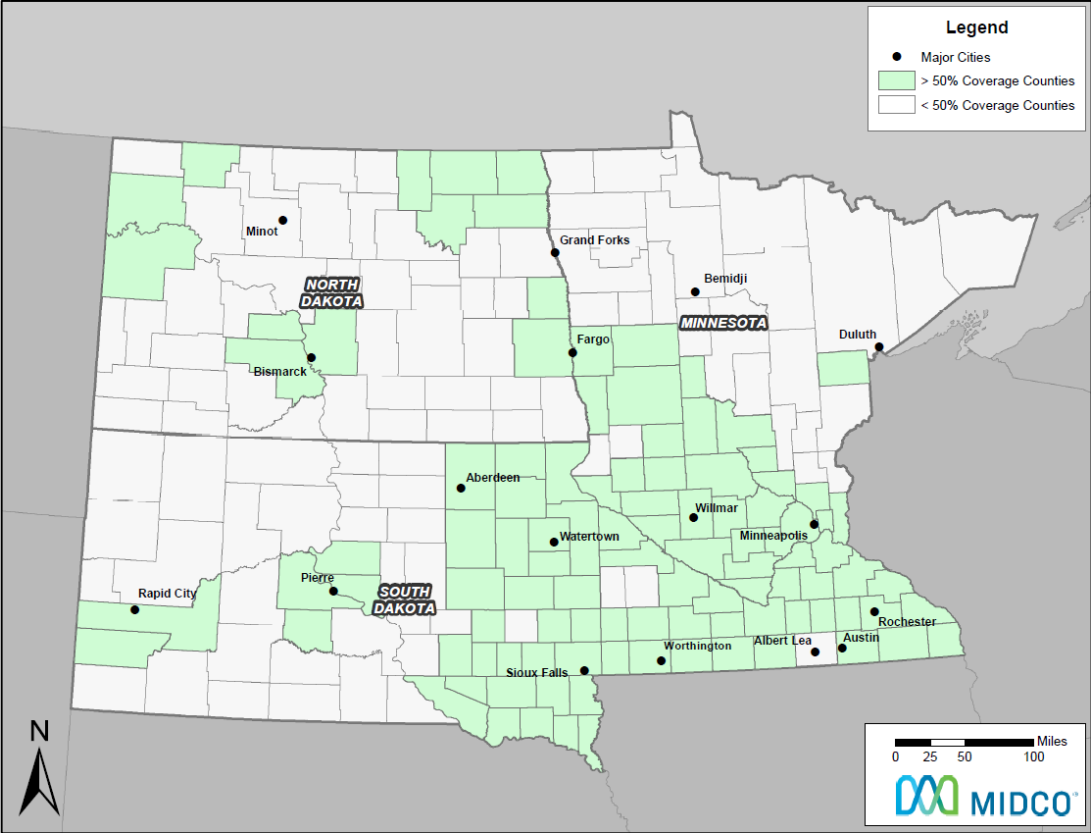
- Given the commercial nature and change of use in spectrum from broadcast to broadband, rationalization is fair
- Rationalize GSAs prior to commercial auction
- Automatic rationalization of GSAs to county-sized licenses if a minimum of 75% of GSA covers the county

Rationalization on 25% v. 50% of Geography



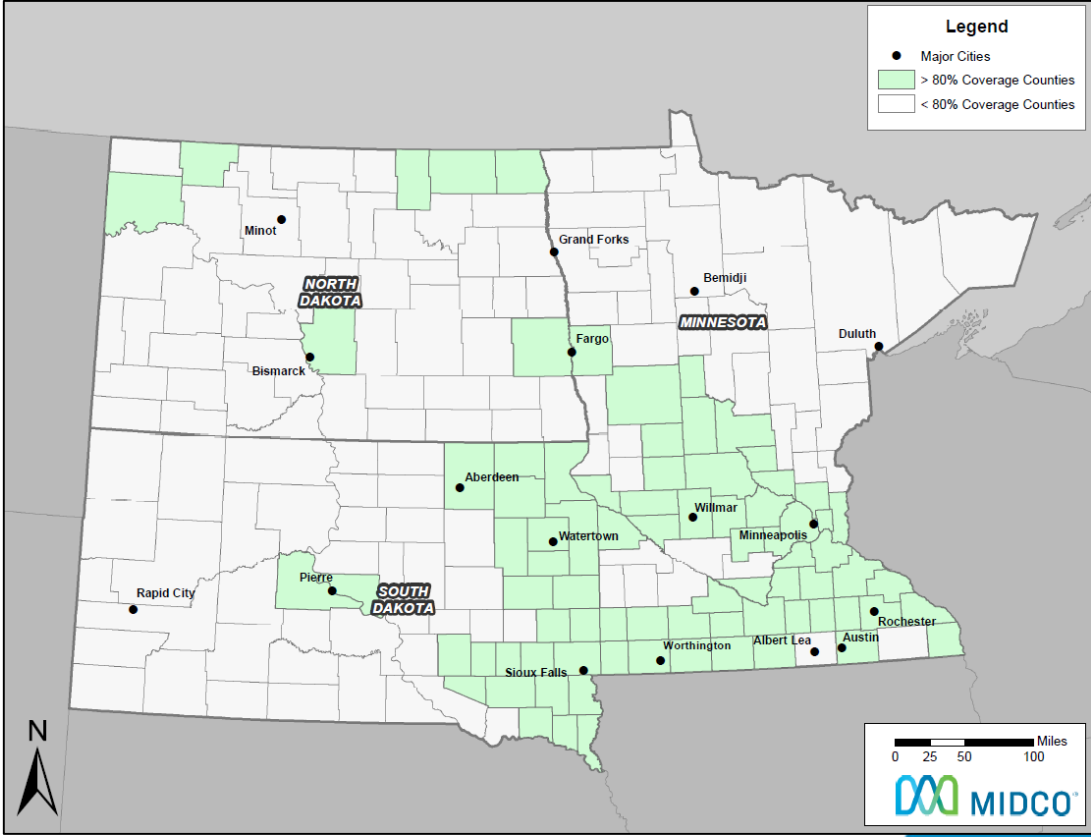
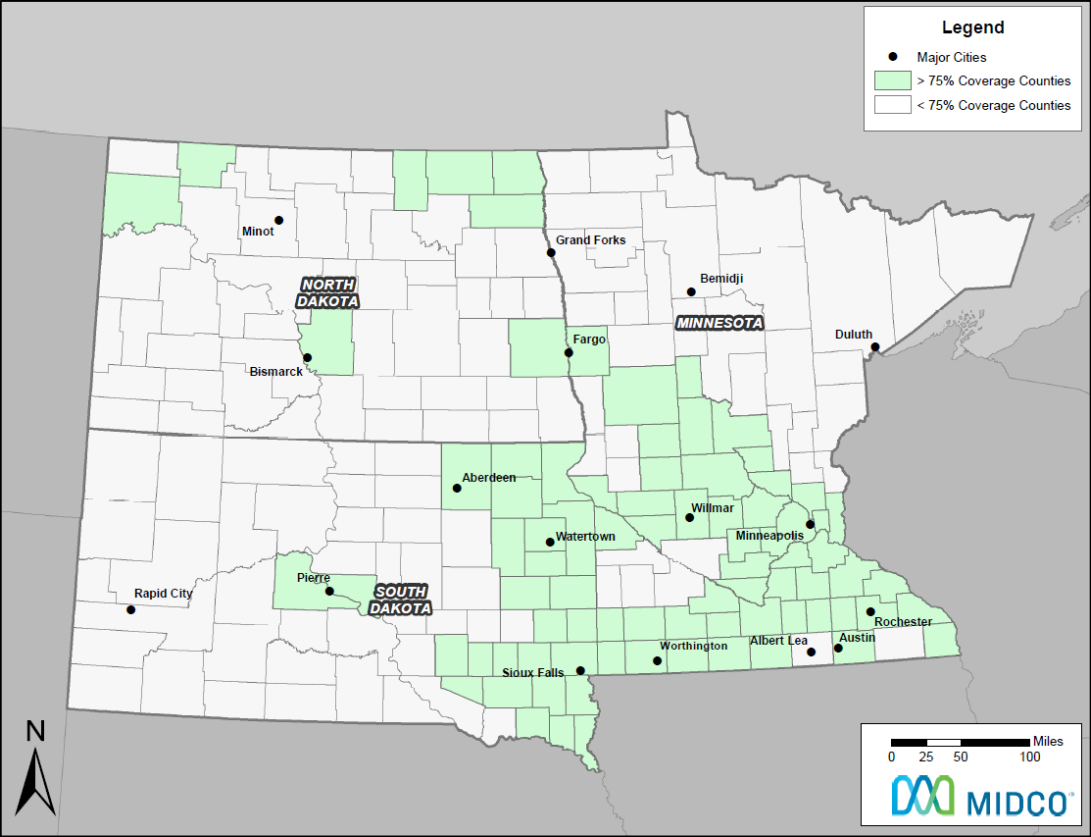
MIDCO
Let's Go®

Rationalization on 50% v. 75% Geography



MIDCO
Let's Go®

Rationalization on 75% v. 80% of Geography

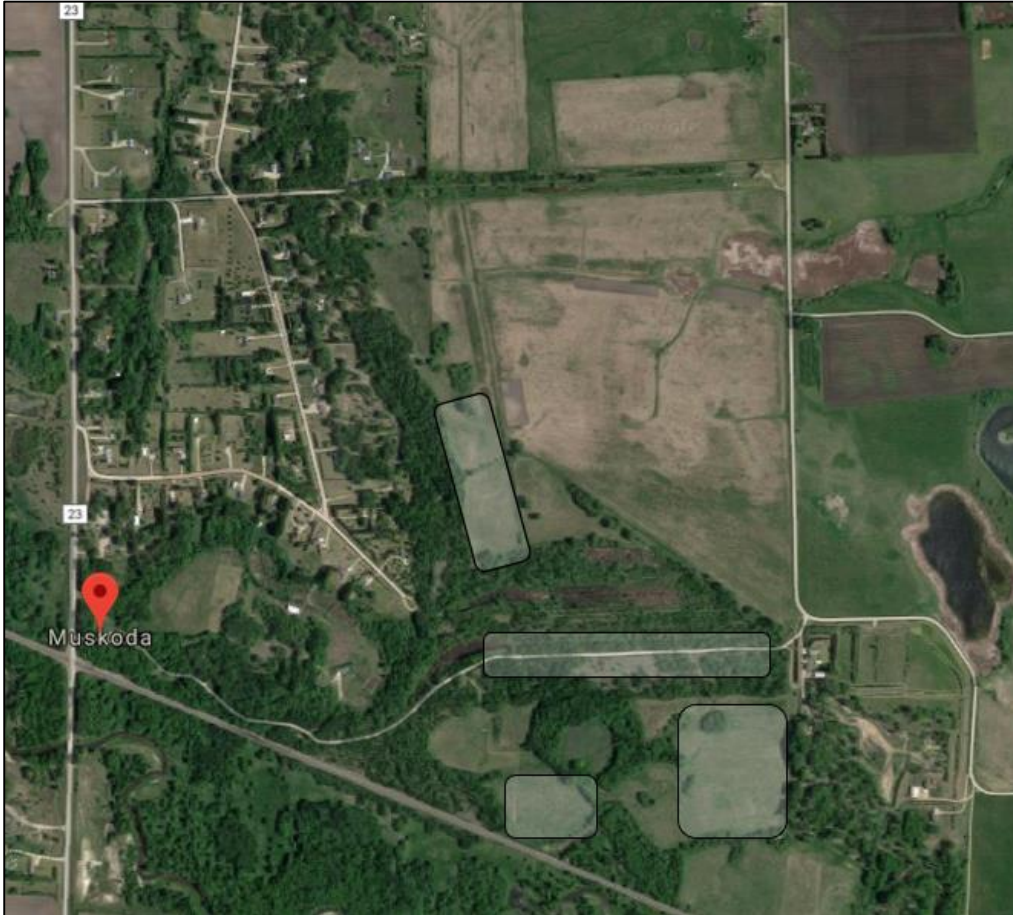


MIDCO
Let's Go®

Keep Educational Use

- Distance learning is still important, but is now via the internet
- E-rate program provides much-needed broadband access
- Compromise on band's intentions with its commercial reality by requiring participation in the E-rate program if the provider covers the institution requesting service

2.5 GHz to Close the Digital Divide



- Rationalize GSA to county if a minimum of 75% of county is covered
- Auction county-sized licenses
- Auction procedures to promote rural broadband development
- Require E-rate program participation

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